



SpaceCom Conference 2016

MCCS Demo

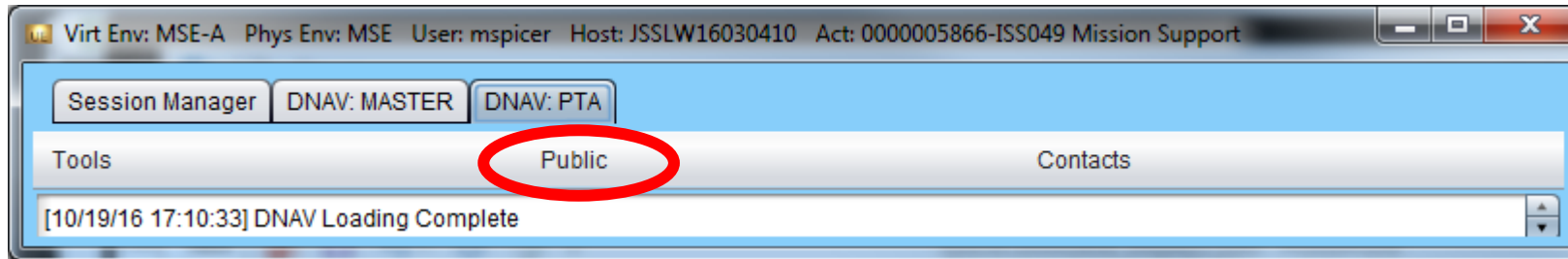
MCC Displays submitted for Export Control Clearance

20 October 2016



Overview

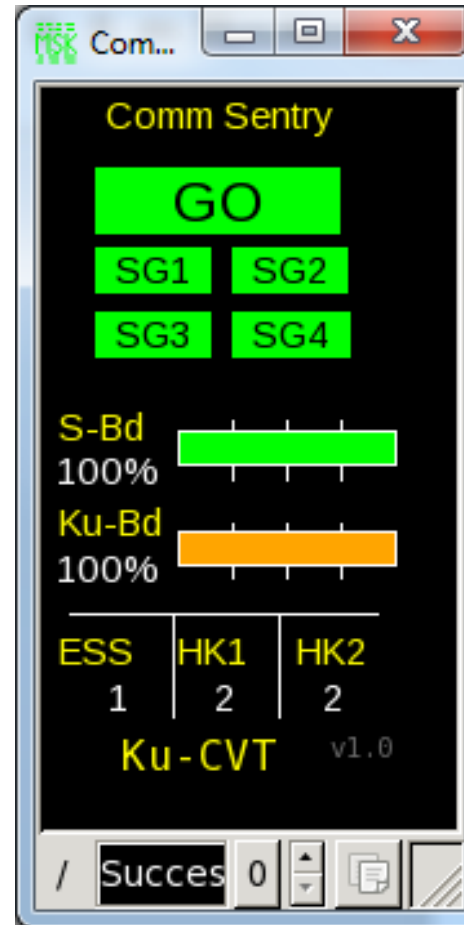
- All displays descend originally from the ISS PTA User Experience Public menu.



- Displays selected from CRONUS (5 displays), ETHOS (9) and SPARTAN (9) console positions
- Only MDT Tabular and Plot displays selected with the exception of the CRONUS IAM display
 - Items that are designated with “*” prior to their name were previously submitted for export for the SpaceOps 2010 Conference and are the current versions of those same displays
 - DAA 20155 was submitted for that export request



*CRONUS -> Comm Sentry





*CRONUS -> Displays -> C&T MSKS -> S-Band 1 Overview

S_Band_1_Overview.msk

BSP 1				Xpdr 1				RFG 1				S-Band FDIR				GMT	
S1	Pwr	Htr	RT	S1	Pwr	Htr	RT	S1	Pwr	Htr	RT	FDIR Stat	Pri	B/U	2016 : 293/22:22:40		
Frame Lock		Lock		Crr Lock		Lock		EI Pos		61.67	Deg	FDIR Stat	Ena	Ena	Active String 2		
CADU Rcvd		23820		Bit Detect		Lock		Az Pos		198.73	Deg	GNC FDIR	Ena	Ena			
Fill CADU Rcvd		40144		Long Code		Lock		Cmd EI Pos		61.73	Deg	FDIR Exp	Ena	Ena			
RS Dcdr Fail		47925		Short Code		Lock		Cmd Az Pos		198.74	Deg	TDRS Slave	Ena	Inh			
Fill CADU Xmit		26973		PN Mn Lobe		Lock		RF Input		2.0	dBm	Retry Cntr		0	Spare RFG		
Data Rate		High		Data Rate		High		Fwd RF Pwr		-60.0	dBm	Rcvy L/O Tmr		0	Z1 RFG Htr -		
Audio Ch 1		On		Mode		NonCoho		Ref RF Pwr		-60.0	dBm	Ant Fail Ctr		420			
Audio Ch 2		On		Xmtr Coherency		Normal						Inval Ptg Ctr		420			
Core Data		On		DSP Mode		Mode 2		Ant Sel		HGA		Loss GNC Ctr		420	S-Band 1 Overview		
Mux Output		On		Digital AGC		21		Pntg Mode		Ena					S1 Configuration		
Demux Input		On		Rcvr AGC		0.74 V		Xmtr		Off		Availability	LDR	HDR	S1 Ant Management		
Decryption		On		Cr Lp Err		1448 Hz		SSPA		Muted		Str 1	Avail	Avail			
Index		3009		RF Pwr Out		0.19 V						Str 2	Avail	Avail	S-Band FDIR		
Bspl Tmp		20.9 °C						EI Gim Tmp		46.8 °C		GNC TDRS Ptg					
Pressure		49.6 kPa		Bspl Tmp		15.2 °C		Az Gim Tmp		37.2 °C		Cntl Veh		US	FDIR S/W Status		
BIT Sum	P/E	Env	EST	Pressure		47.6 kPa		Bspl Tmp		-3.4 °C		Ref Frame		LVLH	Auto TDRS Sel		
				BIT Sum	P/E	Env	EST	Pressure		30.3 kPa		Mnvr in Prog		No	ELOC		
				BIT Sum	P/E	Env	EST	Pressure		30.3 kPa		Total Error		0.33	CCS Backup		
Aud Ch Details				System Software				Pri				B/U				Telemetry Control	
Ch 1				Ch 2												S1 ORU Tests	
Aud Clk Act				ELOC Timer				Act Service				HDR				v1.0	
Aud Mux Act				21689/21:17:53				Sec BDT State				Act					
Aud Demux Act				HGA Position				Good				Ena					
Mux Aud Conv				String State:				Idle				Man					
Demux Aud Conv				System State:				Idle				Auto					
REL P Sync Stat				Tracking Mode				Auto				Auto					
				Current TDRS				6				6					

-- Successfully connected to the ISP server MCCH cronus S:ISS



*CRONUS -> Displays -> C&T MSKS -> S-Band 2 Overview

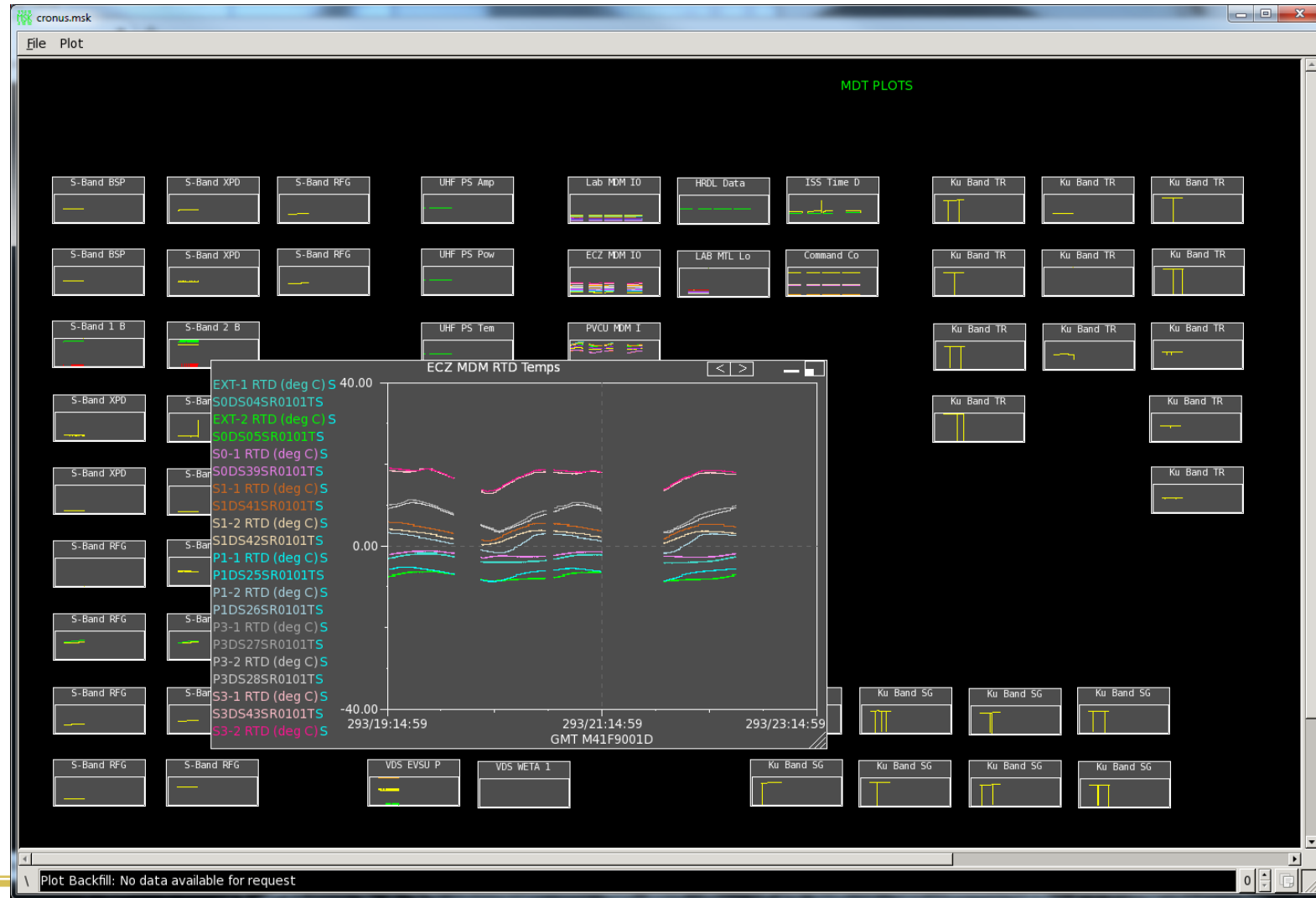
S_Band_2_Overview.msk

BSP 2				Xpdr 2				RFG 2				S-Band FDIR			GMT	
P6	Pwr	Htr	RT	P6	Pwr	Htr	RT	P6	Pwr	Htr	RT	FDIR Stat	Pri	B/U	2016 : 293/22:23:32	
P1	Pwr	Htr	RT	P1	Pwr	Htr	RT	P1	Pwr	Htr	RT	GNC FDIR			Active String 2	
Frame Lock			Lock	Crr Lock			Lock	El Pos			64.72 Deg	FDIR Exp	Ena	Ena	Spare RFG	
CADU Rcvd			37661	Bit Detect			Lock	Az Pos			199.61 Deg	TDRS Slave	Ena	Inh	Z1 RFG Htr -	
Fill CADU Rcvd			32073	Long Code			Lock	Cmd El Pos			64.88 Deg	Retry Cntr				
RS Dcdr Fail			13510	Short Code			Lock	Cmd Az Pos			199.66 Deg	Rcvy L/O Tmr		0		
Fill CADU Xmit			45376	PN Mn Lobe			Lock	RF Input			1.7 dBm	Ant Fail Cntr		420		
Data Rate			High	Data Rate			High	Fwd RF Pwr			39.3 dBm	Inval Ptg Cntr		420		
Audio Ch 1			On	Mode			NonCoho	Ref RF Pwr			23.3 dBm	Loss GNC Cntr		420		
Audio Ch 2			On	Xmtr Coherency			Normal	Ant Sel			HGA	Availability	LDR	HDR	S-Band 2 Overview	
Core Data			On	DSP Mode			Mode 2	Pntg Mode			Ena	Str 1	Avail	Avail	S2 Configuration	
Mux Output			On	Digital AGC			22	Xmtr			On	Str 2	Avail	Avail	S2 Ant Management	
Demux Input			On	Rcvr AGC			0.70 V	SSPA			Xmit				S-Band FDIR	
Decryption			On	Crr Lp Err			189 Hz	El Gim Tmp			44.9 °C	GNC TDRS Ptg			FDIR S/W Status	
Index			3009	RF Pwr Out			0.39 V	Az Gim Tmp			37.8 °C	Cntl Veh			Auto TDRS Sel	
Bspl Tmp			18.3 °C	Bspl Tmp			22.5 °C	Bspl Tmp			9.1 °C	Ref Frame			ELOC	
Pressure			47.6 kPa	Pressure			48.3 kPa	Pressure			42.7 kPa	Mnvr in Prog			CCS Backup	
BIT Sum			P/E Env EST	BIT Sum			P/E Env EST	BIT Sum			P/E Env EST	Total Error			Telemetry Control	
															S2 ORU Tests	
Aud Ch Details				System Software												
Ch 1 Ch 2				ELOC Timer				Act Service				Current			Error	
Aud Clk Act				21689/21:17:01 Sec				BDT State				Pitch			-3.90 0.10	
Aud Mux Act				HGA Position Good				ATS MODE				Roll			-3.99 -0.30	
Aud Demux Act				String State: Idle				TDRS Sel Mode				Rise/Set DQI			Valid Valid	
Mux Audio Conv				System State: Idle				Handover Mode				LOS DQI			Valid Valid	
Demux Aud Conv								Tracking Mode				ID 1			Slot TDRS	
REL P Sync Stat								Current TDRS				ID 2			6 6	

/ Successfully connected to the ISP server MCCH cronus S:ISS

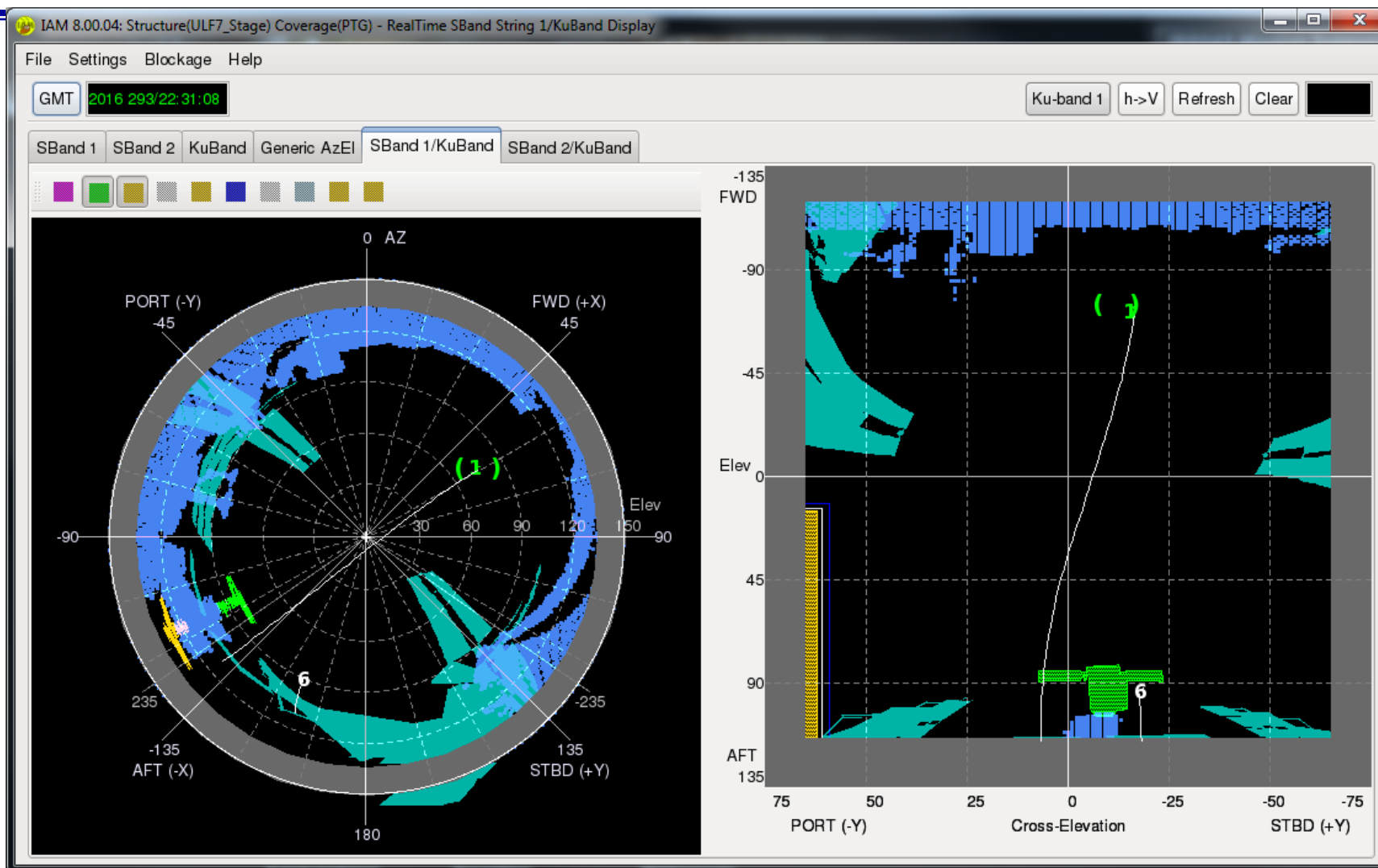


*CRONUS -> Displays -> MDT Plots -> CRONUS





*CRONUS -> IAM



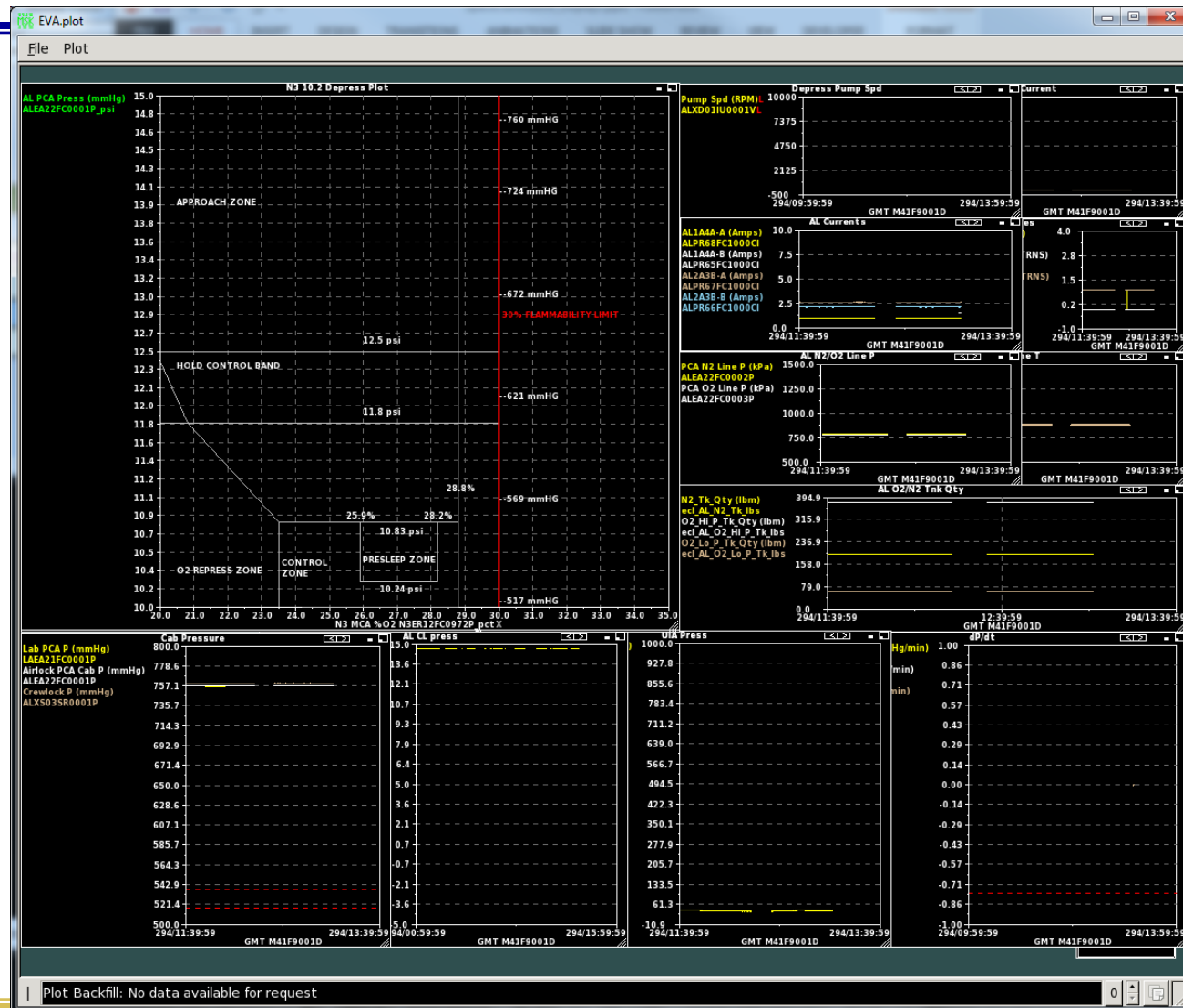


*ETHOS-> MDT PLOTS-> Overview-> Overview





*ETHOS-> MDT PLOTS-> Overview-> EVA & Transfer







*ETHOS-> MDT Table-> Modules-> Node1

node1_eclss.table

Node 1 ECLSS Display v.11.20.15

GMT: 2016 294/14:23:30

Print

D

NODE 1

Station Mode

STANDARD

ATMOSPHERE CONTROL

Cab P756.61 / 14.63 ?

Pressure LimitingINH

LL / UL Viol-- / --

TEMP / HUMIDITY CONTROL

CABIN FAN ?

StateON

Speed3863

dP3.92

Speed LimitingENA

Failure--

IMV FANS ?

INTNCS

Spd

AFT PORT ? ON ON 8441

STBD AFT ? ON ON 8530

FIRE DETECTION

MDM FDIR

N1-1N1-2

NCS Fire Isol StateINHINH

NCS IMV FDIR StateENAREN

NCS Isolation StateRLSRLS

INT ISOLATION

StateRLS

INT Invalid IMV Cmd--

SMK DET ? SD1 ? SD2 ?

Obscuration-6.8113.3

Scatter0.630.89

Pct Trip15.927.0

Fire State--

Mon StateENAREN

Lens ContamCLEANCLEAN

Active BITCMPLTCMPLT

Active BIT Fail--

PBIT / Sctr Fail-- / -- -- / --

Inval Cmd--

IMV VLVS

PORTSTBDAFTFWD

INT StateENARENAREN

INT PosnOPENCLSDOPENOPEN

NCS StateENARENAREN

NCS PosnOPENCLSDOPENOPEN

OpenOP--OPOP

Closed--CL--

DECK -

AFTAFTAFT

INHENAREN

UNKOPENCLSD

INHENAREN

OPENCLSD

OP--OP

--CL

PORTSTBD

ENAREN

OPENCLSD

OPENOPEN

OPOP

--

RAMV

StateVlv Posn% OpenRheo Posn% CoolFailure

NODE 1 ?

EN81.697.1308.590.4--

SDS VLVS

INT StatePosnA IndB IndFDIR

Stbd ?

Fwd ?

Sel ?

Port ?

Deck ?

AUTOB--XEN

AUTOB--XEN

AUTOB--XEN

INHUNK--INH

SPECIAL COMPS

Node Avg Shell T (F)72.5

MDM IDPrimarySecondaryCommand Counters

N1-2N1-1Accept27911

Major StatePRIMSECReject1900

Frame Counter7878

RS Isol StateRLS

Lab Isol StateRLS

AL Isol StateRLS

MPLM Isol StateRLS

NCS C&W

WarningCaution

FireDepressToxic

Successfully connected to the ISP server MCCH ethos S:

0





*ETHOS-> MDT Table-> Modules-> Airlock

airlock.table

Airlock ECLSS Display

v.07.16.14

Print

C&W

Warning

Caution

Fire

Depress

Toxic

GMT: 2016 294/14:25:22

D

AIRLOCK

Station Mode

STANDARD

ATMOSPHERE CONTROL

FIRE DETECTION

PCA

*

RT

ENA

--

ACS Commands

INT ISOLATION

State

RLS

EL P

756.94

/14.64

Campout

NO

Node 1 IMV Isol State

RLS

CL P

759.53

/14.69

Node 3 ACS State

MON

INT Invalid IMV Cmd

--

dP/dt / -dP

0.00

/ 0.0

AL ACS State

MON

SMK DETECTION

Cabin

*

*

Duct

Rsrv T

200:00:00

LAB ACS State

MON

Obscuration

7.78

31.44

State/Stat

MON

/ OPS

Prim PCA

LAB

Scatter

0.64

0.80

Failure

--

Pet Trip

18.4

29.9

PBIT Fail

--

Fire State

--

--

PPR Status

INH

Mon State

ENA

ENA

PCA N2 P

794.8

/ 115.3

Lens Contam

CLEAN

CLEAN

PCA O2 P

776.0

/ 112.5

Active BIT

CMPLT

CMPLT

NIV Pos

CLSD

EMU1

M

M

Active BIT Fail

--

--

OIV Pos

CLSD

EMU2

M

M

PBIT / Sctr Fail

--

/ --

--

/ --

VRCV Pos

CLSD

EMU3

M

M

Invalid Cmd

--

--

--

VRIV Pos

CLSD

EMU4

M

M

TEMP / HUMIDITY CONTROL

NITROGEN SYSTEM

Lbs

192.16

CCA

State

ON

N2 Supply P

9869.8

/ 1431.45

Status

OVRD

N2 Supply Tank T

25.3

/ 77.5

T Contr Alg

1

Set

22.0

N2 Sply Vlv

*

CLSD

In T1

23.9

/ 75.0

N2 Supply Line T

26.0

/ 78.8

In T2

23.8

/ 74.8

OXYGEN SYSTEM

Lbs Hi / Lo

376.03 / 61.56

TCCV

*

21.2

/ 77.5

O2 Hi P Sply P

15598.3

/ 2262.26

Out T1

24.6

/ 76.4

O2 Hi P Sply Tank T

25.2

/ 77.4

Out T2

24.6

/ 76.2

O2 Hi P Sply Vlv

*

CLSD

Fan Spd

*

3351

O2 Hi P Sply Line T

25.5

/ 77.9

Fan dP

2.63

O2 Lo P Sply P

5576.3

/ 808.74

HX LS

DRY

O2 Lo P Sply Tank T

25.2

/ 77.3

WS LS

0.0

O2 Lo P Sply Vlv

*

OPEN

WS P

*

23.7

/ 0.46

O2 Lo P Sply Line T

25.2

/ 77.3

WS Spd

5837

UIA Sply P

244.4

/ 35.44

EIB Fail

*

--

DEPRESS PUMP

-

Inlet T Fail

--

Power Switch

OFF

Emerg Off

--

Fan Fail

--

Enable Light

OFF

Contin Fail

--

HX LS Fail

--

Fault Light Status

OFF

Motor Fail

--

WS Fail

--

(Fail Indicator)

EU Fail

--

LTL In T

9.3

/ 48.8

Speed

L

LTL Out

23.3

/ 74.0

Current

L

Successfully connected to the ISP server MCCH ethos S:

0



*ETHOS-> MDT PLOTS-> Regen/AR -> WPA

WPA table

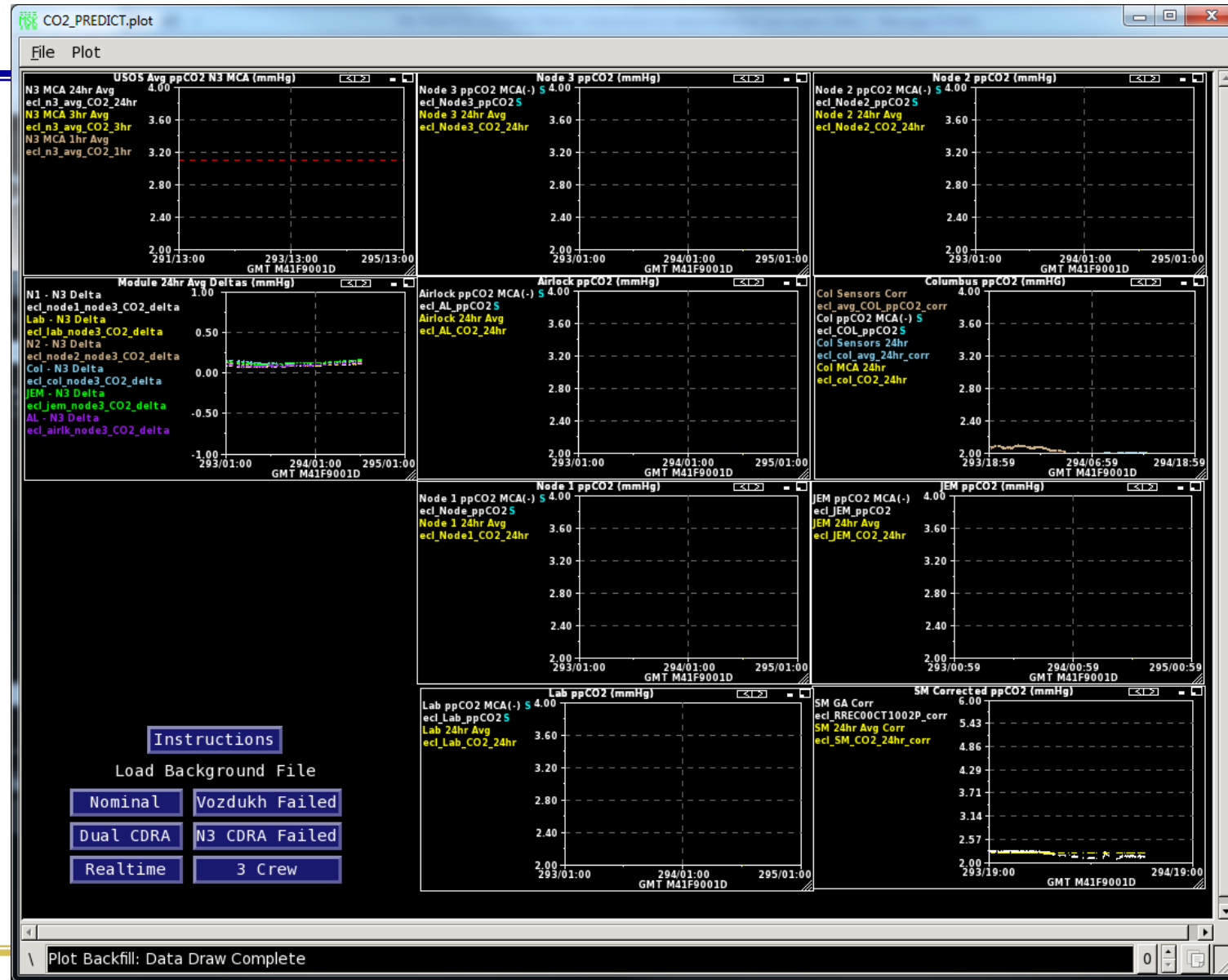
GMT: 2016 294/14:27:23 Node 3 WPA ECLSS Display Warning Caution Station Mode
D WPA Print v.01.08.16 Fire Depress Toxic STANDARD

RPCM N32A2B B1	Proc Cmd Status	STANDBY	Cmd Value	419	Last Ovr	
RPC 2-D4 Rack Power	Proc Step	HEATUP	Cmd Validity	419	Op Code	419
RPCM N3D42A2B A	Heartbeat	361	Cmd Counter	572	Extension	419
RPC 2-WPA Proc Ctrl 1	RT ENA RT FDIR ENA	WPA Safing ENA	Comm Failed	--	Value	419
RPC 18-WPA Proc Ctrl 2	ABIT Step	NONE	ABIT Complete	--	BIT Error	0
WW Bus Unavail	History Rec	0	Shutdown Cmpl	--	Datadump Stat	COMPLETE
Receive State	RECEIVE		Hot Service Stat	NOT IN PROG		
Waste Water ORU	Fault	X	HCZ PPL 36 Ver ID			
Lab Cond Tank (L)	5.4		PRI 1 B/U	52428		
WW Qty Ctrl (%/L)	15.5 / 7.3		Gas Separator	Fault	-	
Qty 1 (7183_1)	15.5 / 7.3		Htr A (8093A) %	28.9		
Qty 2 (7183_2)	17.1 / 8.0		Htr B (8093B) %	9.3		
Quantity Delta	1.6		Liq Snsr (8431_2)	DRY		
WW Lvl (8148_2)	5.6		LS Wire (8431_2_WIRE)	NORM		
Cond Rate (L/day)	2.2		Temp 1 (7047_5)	59.9 / 139.9		
Urine Rate (L/day)	3.6		T Sw 1 (7052_7)	62.8 / 145.0		
WW Vent Vlv	SV_0421_1	OP	Temp 2 (7047_6)	60.1 / 140.1		
WW Sply Vlv	SV_0121_1	OP	T Sw 2 (7052_8)	61.3 / 142.4		
WW Valve	SV_1121_1	OP	Delta 5-7	2.8	Delta 5-8	1.4
MLS Overview	Fault	-	Delta 6-7	2.7	Delta 6-8	1.3
MLS Spd (8005)	3	Curr -0.00	Reactor Health Snsr	Fault	X	
MLS Motor T (7041)	23.8 / 74.8		Conductivity 1 (7191_2)	38.3		
Motr Sw T (7052_9)	23.9 / 75.1		Conductivity 2 (7191_3)	26.0		
MLS Temperature Delta	0.2		Delta	12.3		
MLS HI LS (8006_4)	NORM		Water Storage	Fault	-	
MLS Lo LS (8006_2)	NORM		WS Qty Ctrl	53.6 / 29.9		
MLS LoLo LS (8006_1)	NORM		Qty 1 (7183_3)	54.0 / 30.1		
LoLo Time	00:00		Qty 2 (7183_4)	53.6 / 29.9		
MLS Feed Vlv	SV_1121_3	OP	Quantity Delta	0.5		
MLS Byp Vlv	SV_0122	OP	Cndct (7194_3)	3.4		
MLS Vent Vlv	SV_1101	CL	Gas Lvl (8148_1)	1.7		
Proc Pump	Flow (L/hr)	0.0	Inlet P (7116)	676.9 / 13.1		
Pmp Spd (8004)	2	Curr 0.00	Vent Vlv	SV_0421_3	OP	
Pmp Motor T (7042)	24.3 / 75.7		WS Vlv	SV_1121_2	CL	
Motr Sw T (7052_10)	24.3 / 75.8		Sel Vlv	SV_0133	RECYC	
Pump Temperature Delta	0.1		Storage State	STORE		
MLS Init P (7112_5)	66.2 / 1.3		Total Water Rate (L/day)	-4.6		
MLS Out P (7112_1)	62.1 / 1.2		SFCA dP	103	MTL Safing	
Pump/Sep dP	4.1		Status	ENA		
				300 sec	--	

Cannot do delete, edit is not enabled



ETHOS-> MDT PLOTS-> OVERVIEW -> CO2 Predicts





*SPARTAN -> MDTs-> Overview Displays-> SPARTAN Overview

SPARTAN_MEGA.msk		GMT 2016 294/13:29:30		INSOLATION 01:09:27 ECLIPSE 00:39:48		BETA -46.8		SPARTAN MEGA		CMG% 11.4 Y -3.9		Error 0.2 R 0.5		RS Thrusters MRn2c1_SM11 USTO/US Desats MRn2_SM11		Desat Request ENA		10/22/14																			
Power		7.5		2B		6.6		4B		6.0		2A		7.9		4A		5.0		1A		6.0		3A		9.6		1B		6.5		3B					
SARJ		PORT		S2-JR1		Mode		Auto		Angle 24.9		Target 24		STBD		S1-JR2		Mode		Auto		Angle 335.1		Target 336													
BGA		CHANNEL / MODE		Auto Autotrack		Auto Autotrack		Auto Autotrack		Auto Autotrack		Auto Autotrack		Auto Autotrack		Auto Autotrack		Auto Autotrack		Auto Autotrack		Auto Autotrack		Auto Autotrack		Auto Autotrack		Auto Autotrack		Auto Autotrack							
ANGLE / TARGET		308.3		309.3		31.2		31.7		1.7		1.7		358.3		358.3		128.9		129.3		211.5		211.7		239.6		238.7		178.2		178.3					
SSU		SHUNT 1/2 AMPS		40.65		41.44		47.84		48.97		32.18		32.68		0.00		-0.00		71.83		75.66		9.89		11.20		31.61		30.66		53.06		55.72			
ECLIN ERR BUS V		INSOL		15.8		INSOL		14.9		INSOL		16.3		INSOL		26.7		INSOL		10.4		INSOL		21.8		INSOL		18.0		INSOL		11.6					
DCSU		VOLTS AMPS 1		159.8		73.95		160.2		69.74		159.4		81.05		151.8		139.42		161.0		47.58		158.2		75.09		158.9		116.81		160.9		56.71			
VOLTS AMPS 2		159.7		-8.33		160.2		-8.97		159.4		-13.64		151.9		-28.34		161.1		-5.54		158.2		-11.61		158.9		-19.36		160.9		-4.90					
VOLTS AMPS 3		159.8		-10.06		160.2		-10.71		159.4		-11.94		151.8		-29.65		161.1		-5.40		158.2		-11.54		158.8		-22.90		160.9		-5.24					
VOLTS AMPS 4		159.8		-8.44		160.2		-9.13		159.4		-17.62		151.8		-29.26		161.1		-5.45		158.2		-14.01		158.9		-14.06		161.0		-6.18					
VOLTS AMPS 5		159.8		-2.36		160.2		-2.69		159.4		-2.21		151.8		-2.20		161.1		-2.16		158.2		-2.21		158.8		-2.05		160.9		-2.75					
VOLTS AMPS 6		159.7		-44.50		160.2		-38.00		159.4		-35.20		151.8		-50.04		161.1		-28.73		158.1		-35.94		158.9		-58.33		160.9		-37.49					
BCDU 1		SOC		100.14		99.91		99.25		95.81		100.91		100.09		98.34		101.14																			
OUTPUT KW		-1.42		-1.38		-2.06		-4.50		-0.83		-1.92		-2.82		-0.80																					
PRI / BATT BUS AMPS		-9.0		-10.9		-8.9		-10.5		-13.3		-17.0		-28.3		-34.1		-5.2		-5.8		-12.2		-10.1		-18.8		-24.3		-5.0		-4.7					
Batt 1 Batt 2 TEMP		1.7		1.4		1.5		1.3		1.2		1.6		1.2		1.3		1.5		2.0		1.8		1.5		1.6		1.4		1.3		1.4					
BCDU 2		SOC		99.70		100.02		99.55		93.83		101.07		99.64		97.65		101.00																			
OUTPUT KW		-1.46		-1.38		-1.90		-4.38		-0.91		-1.67		-3.52		-0.76																					
PRI / BATT BUS AMPS		-9.3		-12.4		-8.7		-10.7		-12.2		-14.4		-27.6		-33.0		-5.7		-5.2		-10.8		-13.0		-23.0		-28.6		-4.7		-3.6					
Batt 1 Batt 2 TEMP		1.2		1.9		1.1		1.6		1.3		1.7		1.6		1.5		1.8		1.5		1.2		1.3		1.9		2.0		1.3		1.5					
BCDU 3		SOC		100.08		99.95		98.56		93.49		101.24		99.24		99.30		100.44																			
OUTPUT KW		-1.27		-1.39		-2.67		-4.45		-0.82		-2.17		-2.16		-0.97																					
PRI / BATT BUS AMPS		-8.2		-10.8		-8.9		-10.2		-17.3		-22.3		-28.1		-33.6		-5.1		-5.4		-14.4		-17.2		-14.1		-17.3		-6.1		-6.6					
Batt 1 Batt 2 TEMP		1.2		1.7		1.9		1.7		1.7		1.3		1.5		1.2		2.1		1.5		1.2		1.7		1.5		1.3		2.2		1.7					
PVTCS		PUMP A/B RPM		-5034		13698		-5034		13604		-4844		13612		-4954		13639		-4824		13671		-4824		13559		-5284		13644		-4984		13633			
FLOW RATE kg/hr		841.3		757.9		766.6		779.2		734.5		773.2		731.9		732.8																					
FCV POS DEG		-7.36		25.59		27.69		23.17		-7.00		23.94		-8.58		-6.91																					
PFCS ACCUM FILT AVG		43.77		35.15		36.26		34.84		36.58		36.41		34.42		34.92																					
OUT T1 / T2 DEG C		-5.04		-5.05		-5.36		-5.43		-8.72		-9.81		-7.45		-7.19		-2.76		-3.41		-3.96		-3.55		-6.97		-7.12		-0.95		-0.86					
MBSU		VOLTS		158.9		2B		159.1		4B		158.9		2A		151.0		4A		160.7		1A		157.5		3A		157.4		1B		159.9		3B			
PVCU		LS BLK		Bkup		1		PRI		1		PRI		1		Bkup		1		PRI		1		Bkup		1		PRI		1		Bkup		1			
TRRJ		RGAC		PORT / LP B		S1-JR2		Mode		DP		Angle -39.8		Target 51		STBD / LP A		S2-JR1		Mode		DP		Angle 24.7		Target 51											
ETCS Details		NTA		A		B		ATA		A		B		IFHXs		LOOP A LAB LTL N2 MTL N3 MTL COL MTL JEM LTL LAB MTL N2 LTL N3 LTL COL LTL JEM MTL																					
C&C2		N1-2		GPRV PWR STATUS		OFF		OFF		TANK 1 dP		-0.5		-0.3		BYP VLV		FLO		FLO		FLO		FLO		FLO		FLO		FLO		FLO		FLO			
N2 SUPPLY PRESS		11501		11175		TANK 1 LEVEL		59.4		59.0		ISO VLV		OPN		OPN		OPN		OPN		OPN		OPN		OPN		OPN		OPN		OPN					
GNC1		PMCU1		NTA OUT PRESS		2930		3062		TANK 1 OUT PRESS		1861		2395		H2O CORE		11.3		18.1		19.4		19.8		7.6		15.6		13.6		12.4		4.8		20.6	
EXT1				FEEDBACK SETPT		1937		2686		TANK 2 dP		-1.1		-0.2		PM PRESSURES A B ALGORITHM DATA A B																					
										TANK 2 LEVEL		77.3		60.9		PM INLET PRESS 1863 2399																					
										TANK 2 OUT PRESS		1911		1254		PM OUTLET PRESS 2135 2659																					
P1-1		S0-1		S1-1		PM		A		B		BYPASS PRESS 1947 2490																									
P1-2		S0-2		S1-2		PTC Mode		COOL		COOL		RAD RETURN PRESS 1983 2514																									
P3-1		PTR		S3-1		PUMP SPEED		12496		12500		RT STATUS																									
P3-2		STR		S3-2		PM OUT FLOW		3534		4368		PCVP																									
						PCVP FCV POSN		7.5		7.7		PCVP IN TEMP 6.9 8.1																									
						FCV MODE		TEMP		TEMP		PCVP CNTRL TEMP 3.5 3.3																									
						LINE HTR STAT		INH		INH		PCVP OUT TEMP 4.0 4.1																									
LA-1		N2-1		N3-1		PCVP RPC		CL		CL		PM OUT FLOW TEMP 3.5 3.3																									
LA-2		N2-2		N3-2		LOC		-		-		HAC TEMP 3.4 3.3																									
LA-3		S-Band 2				HEARTBEAT FAIL		-		-		LOOP A (-1) ENA ENA -																									
												LOOP A (-2) ENA ENA -																									
												LOOP B (-1) ENA ENA -																									
												LOOP B (-2) ENA ENA -																									
												FDIR																									
												STAT																									
												FDIR																									
												FAIL																									
												FDIR CONFIG																									
												TRRJ FAIL																									
												PCU FAIL (PRI BKUP)																									
												RELATCH LEAK LIMITS?																									



*SPARTAN-> MDTs-> PRO Displays-> Primary Overview

PRO_PRI_OV.msk									
GMT 294/13:53:03 AOBT 294/13:53:02		Insolation 00:45:56 Eclipse 00:16:16		PRO Primary Power Overview					
PVCU	LST PPL / Block#	2B 50 / 1	4B 50 / 1	2A 50 / 1	4A 50 / 1	1A 50 / 1	3A 50 / 1	1B 50 / 1	3B 50 / 1
Primary Power		7.212 kW	6.338 kW	4.391 kW	7.705 kW	5.142 kW	5.864 kW	9.500 kW	6.115 kW
SARJ	PORT	Mode Auto	Angle 296.0	Command 296.0	Target 295.5	STBD	Mode Auto	Angle 64.0	Cmd 64.0
BGA	Mode Latches	Autotrack	Autotrack	Autotrack	Autotrack	Autotrack	Autotrack	Autotrack	Autotrack
	Angle / Target	319.4 / 319.0	37.2 / 37.0	6.8 / 7.0	352.9 / 353.0	138.9 / 139.0	217.1 / 217.0	223.8 / 224.0	172.8 / 173.0
	DP Cmd / BPGA	64.0 / 315.8	295.0 / 44.2	330.0 / 44.2	20.0 / 315.8	260.0 / 135.8	100.0 / 224.2	0.0 / 224.2	0.0 / 135.8
	A Bias / M Bias	+6.4 / +0.0	-9.8 / +0.0	-40.2 / +0.0	+39.9 / +0.0	+5.9 / +0.0	-9.9 / +0.0	-3.2 / +0.0	+39.8 / +0.0
	Out Pwr / Amps	9.285 kW 57.9	8.380 kW 52.2	6.691 kW 41.6	9.944 kW 62.0	7.402 kW 45.7	7.956 kW 49.5	11.939 kW 74.2	8.163 kW 50.6
	Shunt 1 / 2 Amps	57.64 58.37	64.71 66.61	41.92 51.88	45.09 43.87	75.79 78.94	71.43 67.94	63.96 66.87	58.71 60.29
	RBI 1 Power	9.410 kW	8.439 kW	6.674 kW	9.966 kW	7.455 kW	8.047 kW	11.852 kW	8.156 kW
	RBI 2 Power	-0.731 kW	-0.677 kW	-0.718 kW	-0.808 kW	-0.761 kW	-0.695 kW	-0.727 kW	-0.639 kW
	RBI 3 Power	-0.687 kW	-0.629 kW	-0.740 kW	-0.708 kW	-0.776 kW	-0.734 kW	-0.701 kW	-0.721 kW
	RBI 4 Power	-0.724 kW	-0.753 kW	-0.714 kW	-0.687 kW	-0.762 kW	-0.744 kW	-0.856 kW	-0.658 kW
	RBI 5 Power	-0.376 kW	-0.335 kW	-0.347 kW	-0.333 kW	-0.347 kW	-0.345 kW	-0.323 kW	-0.386 kW
	RBI 6 Power	-6.837 kW	-6.002 kW	-4.043 kW	-7.372 kW	-4.795 kW	-5.519 kW	-9.177 kW	-5.729 kW
	IEA DDCU Power	2B 0.272 kW	4B 0.219 kW	2A 0.232 kW	4A 0.224 kW	1A 0.235 kW	3A 0.219 kW	1B 0.235 kW	3B 0.242 kW
	SOC 1	102.05 %	101.94 %	102.04 %	101.39 %	101.72 %	102.98 %	101.49 %	102.44 %
	Charge Rate	+0.044 %/min	+0.042 %/min	+0.048 %/min	+0.049 %/min	+0.004 %/min	+0.053 %/min	+0.033 %/min	+0.031 %/min
	Battery Htrs	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2
	SOC 2	101.63 %	102.11 %	102.28 %	100.99 %	101.92 %	102.21 %	101.35 %	102.02 %
	Charge Rate	+0.033 %/min	+0.056 %/min	+0.052 %/min	+0.044 %/min	+0.011 %/min	+0.046 %/min	+0.033 %/min	+0.021 %/min
	Battery Htrs	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2
	SOC 3	101.96 %	101.66 %	101.67 %	101.04 %	102.27 %	101.94 %	101.99 %	101.08 %
	Charge Rate	+0.038 %/min	+0.035 %/min	+0.039 %/min	+0.040 %/min	+0.016 %/min	+0.038 %/min	+0.056 %/min	+0.006 %/min
	Battery Htrs	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2	A1 A2 B1 B2
MBSU/DDCU	MBSU 0v Power	RB18 6.767	RB18 5.793	RB11 3.893	RB11 7.255	RB11 4.589	RB11 5.328	RB18 9.010	RB18 5.602
	RS CHT Tot	0.1		CHT D D 0.0	CHT D D 0.0				
	RS ARCU Tot	0.9	ARCU D 0.6	ARCU D 0.0	ARCU D 0.0	ARCU D 0.0			ARCU D D 0.3
	ESA Pwr	3.746	4B PDU 1 1.740	2A PDU 2 0.622			3A PDU 2 0.635	1B PDU 1 0.749	
	JAXA Pwr	8.272	2B PDU B 1.001		4A PDU A 2.465		3A PDU B 2.368	1B PDU A 2.439	
SPARTAN	PLD	ETHOS	SHL	ADCO	Yaw -4.0	Pitch -3.9	Roll +1.0	Tot Error +0.4	ISS Mode Standard
					Beta -46.87	CMG% 34	CRONUS	S-Band Str 2	
Successfully connected to the ISP server MCCH spartan S:ISS									



*SPARTAN-> MDTs-> Overview Displays-> MBSU

MBSU_OVERVIEW.msk

GMT 294/13 49:40
AOBT 294/13 49:39

MBSU OVERVIEW

2/14/14

MBSU	Bus A	Bus B	BP Temp	PS Temp	CP Temp	Htr Cntrl	Cntrl Pwr Sel	Intg Cnt
MBSU 1	160.8 V	159.4 V	4.7	7.4	1.7	Ena	In Range	37320
Hot Cross Tie	SW	TRIP	VOLT	AMP	OP/CCL CMD	Hot Sw Op	Trip Func	Load
01	CL	- / -	160.7	28.9	- / INH	- / Inh	Ena	DCSU 1A RBI 6
02	CL	- / -	160.7	0.0	- / INH	- / Inh	Ena	DDCU LA1A
03	CL	- / -	160.7	-16.3	- / INH	- / Inh	Ena	DDCU S01A
04	CL	- / -	160.7	-12.7	- / INH	- / Inh	Ena	MBSU 2 P/S
05	CL	- / -	0.0	0.0	- / INH	- / Inh	Ena	MBSU 4 RBI 7
06	CL	- / -	160.8	0.0	- / INH	- / Inh	Ena	DCSU 1B RBI 6
07	CL	- / -	0.0	-0.0	- / INH	- / Inh	Ena	DDCU N2S1B
08	CL	- / -	159.3	50.2	- / INH	- / Inh	Ena	DDCU N2D1B
09	CL	- / -	159.4	-17.1	- / INH	- / Inh	Ena	DDCU LA1B
10	CL	- / -	159.3	-5.6	- / INH	- / Inh	Ena	DDCU N31B
11	CL	- / -	159.3	-12.6	- / INH	- / Inh	Ena	MBSU 2 RBI 14
12	CL	- / -	159.3	-14.5	- / INH	- / Inh	Ena	
13	CL	- / -	159.3	0.0	- / INH	- / Inh	Ena	
14	CL	- / -	0.0	0.0	- / INH	- / Inh	Ena	

MBSU	Bus A	Bus B	BP Temp	PS Temp	CP Temp	Htr Cntrl	Cntrl Pwr Sel	Intg Cnt
MBSU 2	160.6 V	159.6 V	8.0	11.3	2.8	Ena	In Range	11420
01	CL	- / -	160.6	24.6	- / INH	- / Inh	Ena	DCSU 2A RBI 6
02	CL	- / -	160.6	-8.1	- / INH	- / Inh	Ena	DDCU N32A
03	CL	- / -	160.6	6.3	- / INH	- / Inh	Ena	DDCU N2P2A
04	CL	- / -	160.6	-9.8	- / INH	- / Inh	Ena	DDCU LA2A
05	CL	- / -	160.6	-0.2	- / INH	- / Inh	Ena	CHTs 21 & 22
06	CL	- / -	160.6	0.1	- / INH	- / Inh	Ena	MBSU 3 P/S
07	CL	- / -	0.1	0.1	- / INH	- / Inh	Ena	MBSU 3 RBI 7
08	CL	- / -	159.8	43.0	- / INH	- / Inh	Ena	DCSU 2B RBI 6
09	CL	- / -	159.8	-7.2	- / INH	- / Inh	Ena	DDCU N2O2B
10	CL	- / -	159.8	-13.9	- / INH	- / Inh	Ena	DDCU LA2B
11	CL	- / -	159.7	-13.8	- / INH	- / Inh	Ena	DDCU S02B
12	CL	- / -	159.7	-8.2	- / INH	- / Inh	Ena	DDCU N32B
13	CL	- / -	0.1	0.1	- / INH	- / Inh	Ena	MBSU 1 RBI 14
14	CL	- / -	0.1	0.1	- / INH	- / Inh	Ena	

MBSU	Bus A	Bus B	BP Temp	PS Temp	CP Temp	Htr Cntrl	Cntrl Pwr Sel	Intg Cnt
MBSU 3	160.1 V	160.2 V	8.6	16.6	2.8	Ena	In Range	62862
01	CL	- / -	160.1	35.5	- / INH	- / Inh	Ena	DCSU 3A RBI 6
02	CL	- / -	160.1	-15.9	- / INH	- / Inh	Ena	DDCU N2O3A
03	CL	- / -	160.1	-6.5	- / INH	- / Inh	Ena	DDCU N2P3A
04	CL	- / -	160.1	-13.1	- / INH	- / Inh	Ena	DDCU P13A
05	CL	- / -	0.0	0.0	- / INH	- / Inh	Ena	MBSU 4 P/S
06	CL	- / -	160.1	0.0	- / INH	- / Inh	Ena	MBSU 2 RBI 7
07	CL	- / -	0.0	0.0	- / INH	- / Inh	Ena	DCSU 3B RBI 6
08	CL	- / -	160.2	35.4	- / INH	- / Inh	Ena	DDCU Z13B
09	CL	- / -	160.2	-8.6	- / INH	- / Inh	Ena	DDCU LA3B
10	CL	- / -	160.2	-22.3	- / INH	- / Inh	Ena	DDCU S03B
11	CL	- / -	0.0	0.0	- / INH	- / Inh	Ena	MBSU 4 RBI 14
12	CL	- / -	160.2	-4.2	- / INH	- / Inh	Ena	
13	CL	- / -	0.0	0.0	- / INH	- / Inh	Ena	
14	CL	- / -	0.0	0.0	- / INH	- / Inh	Ena	

MBSU	Bus A	Bus B	BP Temp	PS Temp	CP Temp	Htr Cntrl	Cntrl Pwr Sel	Intg Cnt
MBSU 4	159.8 V	159.8 V	5.3	11.7	2.2	Ena	In Range	14070
01	CL	- / -	159.9	39.1	- / INH	- / Inh	Ena	DCSU 4A RBI 6
02	CL	- / -	159.8	-17.2	- / INH	- / Inh	Ena	DDCU N2S4A
03	CL	- / -	159.9	-7.3	- / INH	- / Inh	Ena	DDCU LA4A
04	CL	- / -	159.8	-14.2	- / INH	- / Inh	Ena	DDCU N34A
05	CL	- / -	159.9	-0.1	- / INH	- / Inh	Ena	CHTs 23 & 24
06	CL	- / -	159.9	0.0	- / INH	- / Inh	Ena	MBSU 1 P/S
07	CL	- / -	0.0	0.0	- / INH	- / Inh	Ena	MBSU 1 RBI 7
08	CL	- / -	159.8	37.1	- / INH	- / Inh	Ena	DCSU 4B RBI 6
09	CL	- / -	159.8	-12.5	- / INH	- / Inh	Ena	DDCU N2D4B
10	CL	- / -	159.8	-13.4	- / INH	- / Inh	Ena	DDCU S14B
11	CL	- / -	159.8	-7.3	- / INH	- / Inh	Ena	DDCU S04B
12	CL	- / -	159.8	-3.8	- / INH	- / Inh	Ena	DDCU Z14B
13	CL	- / -	0.0	0.0	- / INH	- / Inh	Ena	MBSU 3 RBI 14
14	CL	- / -	0.0	0.0	- / INH	- / Inh	Ena	

-- Successfully connected to the ISP server MCCH spartan S:ISS 0



*SPARTAN-> MDTs-> Module Displays-> Lab-> Lab Overview

LAB_Overview.msk

25 APR 2014

GMT 294/13:34:42

AOBT 294/13:34:41

LAB EPS Overview

DDCU LA2B (Aft)

PS T 30.1 C

Conv T 25.2 C

Pwr Out 2.1 kW 20050

Vin 158.2 V

lin 14.1 A

Vout 124.6 V

lout 16.8 A

DDCU LA1B (Fwd)

PS T 28.9 C

Conv T 23.7 C

Pwr Out 2.0 kW 26132

Vin 157.3 V

lin 13.9 A

Vout 124.4 V

lout 16.2 A

RPCM

Intg

lin A

Temp C

Trp

Closed

LA2B-A

44598

1.7

17.9

-

123

5678

LA2B-B

28376

2.2

19.5

-

56789

0 2

LA2B-C

41615

7.8

19.5

-

12

4

LAD62B A

61686

2.3

22.6

-

12

4

LAD52B A

23265

2.9

22.6

-

2345

7

LAD42B A

0

D

D

-273.2

-

LAD22B A

45025

4.1

19.5

-

345

89

LA2B-D

31990

0.6

17.9

-

12

LA2B-E

48001

4.1

17.9

-

12345

78

LA2B-F

64084

1.0

17.9

-

1

LAS62B A

18009

1.4

30.4

-

123

5678

LA2B-G

32353

1.8

17.9

-

123

678

LA2B-H

24288

2.4

17.9

-

12

RPCM

Intg

lin A

Temp C

Trp

Closed

LA1B-A

6792

1.4

19.5

-

123

LA1B-B

25572

2.3

19.5

-

567

9

LA1B-C

49842

1.4

19.5

-

LA1B-D

52383

9.8

17.9

-

34

LAP61B A

57445

7.1

24.2

-

123

5678

LAD11B A

55549

3.5

21.0

-

1234

678

LA1B-E

52479

1.2

19.5

-

234

67

LA1B-F

60420

2.5

19.5

-

2345

8

LA1B-G

55553

2.2

19.5

-

123

LA1B-H

47478

1.7

19.5

-

123

5

DDCU LA2A

PS T 26.6 C

Conv T 20.9 C

Pwr Out 1.4 kW 36694

Vin 158.9 V

lin 9.3 A

Vout 124.3 V

lout 10.9 A

C&C 2 89

C&C 3 87

C&C 1 87

INT 2 88

GNC 1 88

GNC 2 88

PMCU 1 88

PMCU 2 10

DDCU LA1A

PS T 30.7 C

Conv T 25.0 C

Pwr Out 2.4 kW 48123

Vin 158.9 V

lin 16.1 A

Vout 124.4 V

lout 19.4 A

DDCU LA3B

PS T 31.1 C

Conv T 25.2 C

Pwr Out 3.2 kW 46352

Vin 158.5 V

lin 21.1 A

Vout 124.4 V

lout 25.5 A

DDCU LA4A

PS T 27.2 C

Conv T 20.7 C

Pwr Out 1.0 kW 19606

Vin 157.9 V

lin 7.6 A

Vout 124.6 V

lout 8.3 A

RPCM

Intg

lin A

Temp C

Trp

Closed

LA2A3B-A

34180

3.9

17.9

-

1

LA2A3B-B

38489

5.3

17.9

-

1

LA2A3B-C

4598

3.4

17.9

-

1

34

LA2A3B-D

19734

13.7

19.5

-

234

AL2A3B A

54832

2.6

21.0

-

12

4

AL2A3B B

42913

2.1

21.0

-

23

567

LA2A3B-E

1083

0.8

19.5

-

LA2A3B-F

39625

9.1

17.9

-

234

LAS52A3B A

23001

2.2

19.5

-

45

LA2A3B-G

23090

3.9

17.9

-

2

RPCM

Intg

lin A

Temp C

Trp

Closed

LA1A4A-A

64323

0.9

17.9

-

LA1A4A-B

16191

6.0

19.5

-

1

LA1A4A-C

10251

1.7

17.9

-

23456

LA1A4A-D

61573

14.0

17.9

-

12

LA1A4A-E

26883

3.1

19.5

-

1

LA1A4A-F

19052

5.4

19.5

-

1234

AL1A4A A

58659

1.0

21.0

-

AL1A4A B

22911

1.5

21.0

-

3456

LAP51A4A A

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-- Successfully connected to the ISP server MCCH spartan S:ISS

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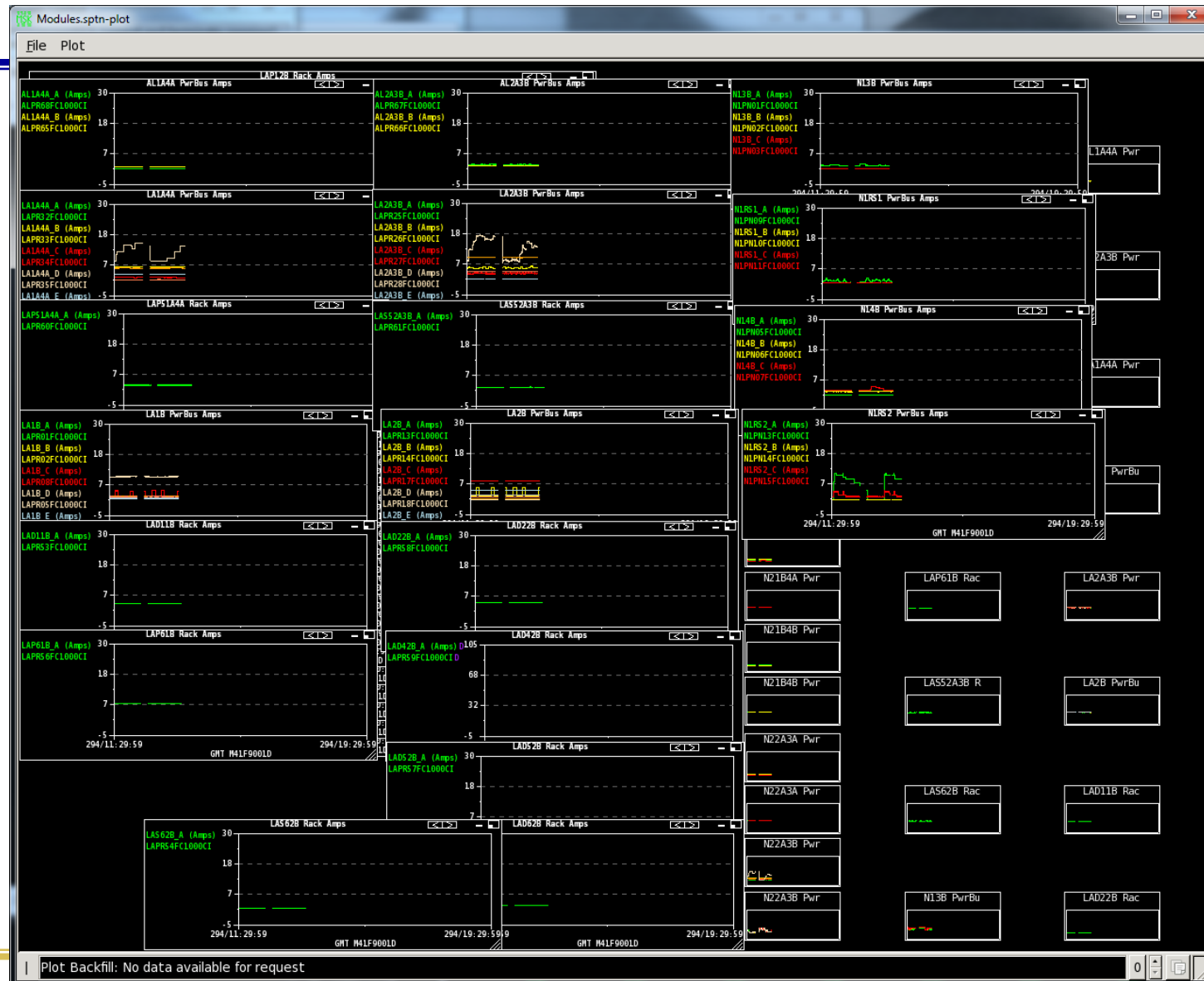


*SPARTAN-> PLOTs-> SPARTAN-> Modules-> EPS Overview





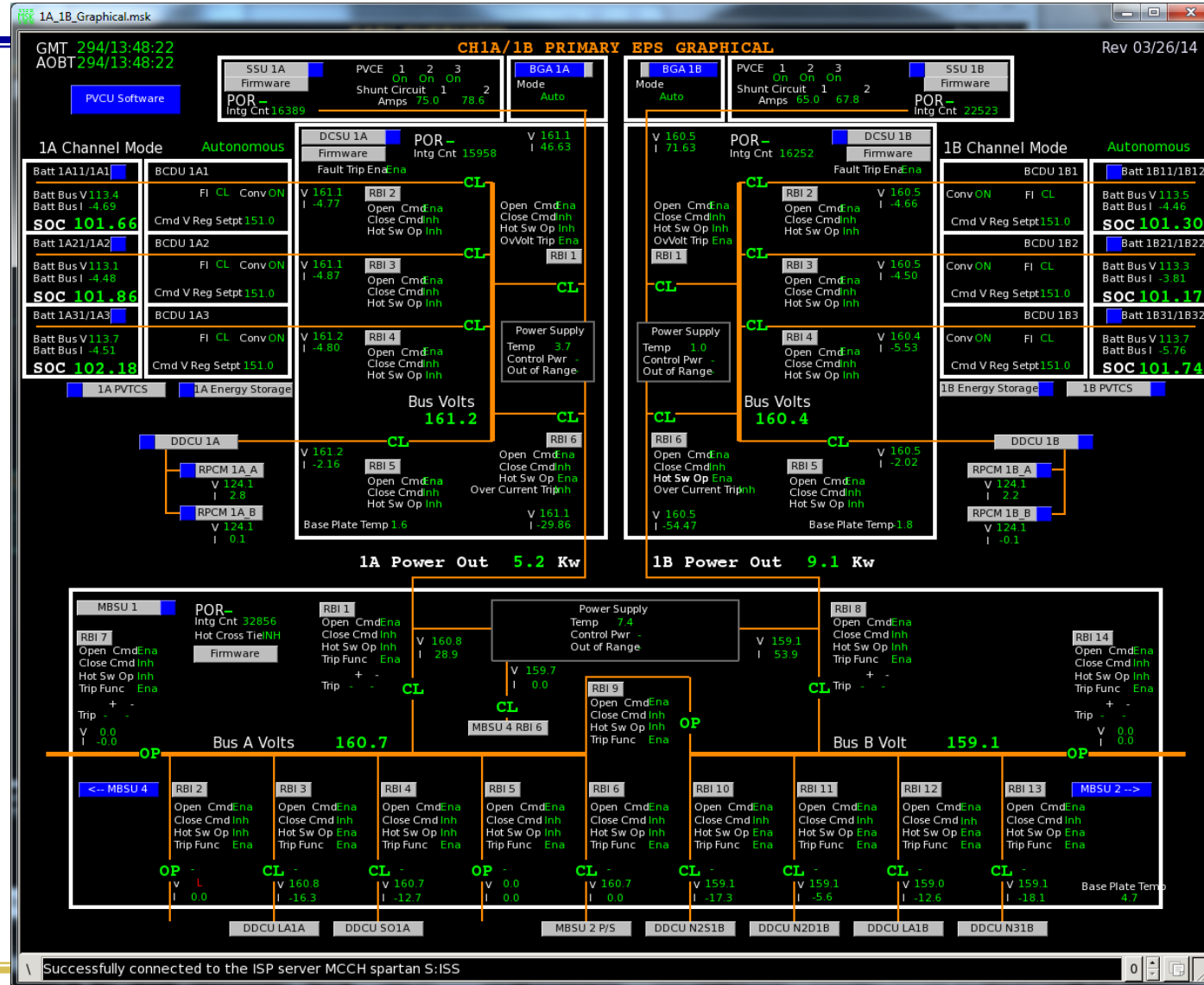
*SPARTAN-> PLOTs-> SPARTAN-> Modules





SPARTAN-> MDTs-> Overview Displays-> Primary EPS

Graphicals-> 1A_1B





SPARTAN-> MDTs-> Overview Displays-> SARJ-> Overview

SARJ OVERVIEW												
GMT 294/13:50:31												
Rev 10/29/14												
SARJ		FDIR STATES		SARJ INFORMATION				DLA/RJMC INFORMATION				
		PORT	STBD	PORT		STBD		PORT		STBD		
				STRING 1	STRING 2	STRING 1	STRING 2	STRING 1	STRING 2	STRING 1	STRING 2	
SARJ_M FDIR				SARJ STATUS				CMDDED DLA MOTOR				
JOINT SHUTDOWN FAIL		ENA	ENA	LOGICAL THREADS				DLA MOTOR STATUS				
INADV DLA STATE CHNGE		ENA	ENA	RGAC				DRIVE				
BLIND OPS		ENA	ENA	SARJ MANAGER				DRIVE				
BLIND OPS TRANS UNSUCC		ENA	ENA	SARJ CONTROL				DRIVE				
LOWER TIER UNAVAILABLE		ENA	ENA	RJMC COMM				DRIVE				
LOSS OF MONITOR MDM		ENA	ENA	SARJ_M MODE				DRIVE				
STRING FAIL AUTOTRACK		ENA	ENA	SARJ_M CMD PATH				DRIVE				
STRING FAIL DP		ENA	ENA	SARJ_M APP BUSY				DRIVE				
STRING FAIL BLIND		ENA	ENA	SARJ_M APP RESPONSE				DRIVE				
XTION TO CHECKOUT		ENA	ENA	CMD REJECTED COUNTER				DRIVE				
JOINT RESOLVER LOSS		INH	INH	SARJ_C CMD POSN SOURCE				DRIVE				
BLIND OPS TIMEOUT		INH	INH	SARJ_C MODE				DRIVE				
INADV JOINT ROTATION		INH	INH	SARJ_C APP BUSY				DRIVE				
AUTO RESTART		INH	INH	SARJ_C APP AVAIL				DRIVE				
SARJ_C FDIR				SARJ_M JOINT ANGLE				DRIVE				
DRIVE MOTOR TEMP HIGH		ENA	ENA	JOINT ANGLE SOURCE				DRIVE				
RJMC MTR CURRENT HIGH		ENA	ENA	JOINT RSLVR ANGLE				DRIVE				
EXCESSIVE JOINT VEL		ENA	ENA	JOINT POSN MAR				DRIVE				
TRACK CNTRL STOP FAIL		ENA	ENA	MOT ACCUM REVS (MAR)				DRIVE				
MDM - RJMC LOC		ENA	ENA	SARJ NULL POSN				DRIVE				
JOINT RESOLVER FAIL		ENA	ENA	SARJ CMD POSN (EXT)				DRIVE				
MOTOR RESOLVER FAIL		ENA	ENA	GNC TARGET				DRIVE				
ENGA DLA TOOTHCRASH		ENA	ENA	BIAS				DRIVE				
LOCK DLA TOOTHCRASH		ENA	ENA	LAST ORBIT TARGET BUFFER				DRIVE				
MDM FRAME COUNTS				JOINT RSLVR CMDED/ACTUAL				DRIVE				
RPCM FRAME COUNTS				RJMC RPC POSITION				DRIVE				
PRIM C&C (2)		89	P31A_A	1376	POWER ON RESET FLAG				DRIVE			
PRIM EXT (1)		88	P32B_A	4898	SARJ MOTION DETAILS				DRIVE			
PRIM GNC (1)		88	S31A_A	46676	POSN REQUEST (deg)				DRIVE			
P3-1		86	S32B_A	539	JOINT VELOC (VRR) (deg/s)				DRIVE			
P3-2		86			DVRG AVG (deg/s^2)				DRIVE			
S3-1		86			STOP DISTANCE				DRIVE			
S3-2		86			APPROX. TIME TO TARGET				DRIVE			
					GNC				DRIVE			
					POINTING VALIDTY				DRIVE			
					TARGET ANGLE VALIDITY				DRIVE			
					RGAC				DRIVE			
					RGAC DATA VALID				DRIVE			
					ORBITAL PERIOD				DRIVE			
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